

Appl. No. 10/507,478  
Reply to Office action of 11/07/06

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**REMARKS**

Claims 3-4 and 6-7 remain in this application. Claims 1-2 and 5 have been canceled with claims 3 and 6 being currently amended. Claims 4 and 7 are pending as originally filed.

The Examiner acknowledged that claims 3-4 and 6-7 are directed to allowable subject matter. Applicants acknowledge that indication with appreciation and have amended the claims to contain the base and intervening limitations.

Claim 3 contains the base limitations of claim 1 from which it depends. Claim 4 is not amended insofar as it depends from claim 3. Claim 6 has been amended to contain the intervening limitations of claim 5 and the base limitations of claim 1. Claim 7 is pending as originally filed insofar as it depends from claim 6. The amendments are supported by the claims as originally filed and do not contain new matter.

Accordingly, Applicants respectfully request that a timely Notice of Allowance be issued in this case in view of the following.

1. **Rejection of Claims 1-2 and 5 under 35 U.S.C. § 103(a)**

The Office Action rejected claims 1-2 and 5 as being obvious over U.S. Patent No. 6,528,034 ("Pinnavaia *et al.*"). The Office Action stated:

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A method of transition metal oxide having micro-mesoporous structure comprising, adding and dissolving transition metal salt which is a precursor of transition metal oxide and/or metal alkoxide in the solution preparation by dissolving polymer surfactant in organic solvent, hydrolyzing, polymerizing and self-assembled the transition metal salt and/or metal alkoxide to produce sol solution, and then obtaining framework-stabilized gel from the sol solution, and removing the polymer surfactant by using water at room temperature (Column 9-10). Pinnavaia discloses that the polyethylene oxide-based surfactants may be used (Column 23, Example 19).

Pinnavaia does not expressly state that average fine pore size is not less than 1 nm and not more than 2 nm and surface area of transition metal oxide having mesoporous structure is from 100 m<sup>2</sup>/g to 500 m<sup>2</sup>/g. However, it appears the process steps are the same. Therefore, the product would have an average fine pore size, which is not less than 1 nm and not more than 2 nm and a surface area of transition metal oxide having mesoporous structure from is from 100 m<sup>2</sup>/g to 500 m<sup>2</sup>/g.

It is respectfully maintained that this rejection fails to establish all three prongs necessary for a *prima facie* case of obviousness. Pinnavaia *et al.* does not teach or suggest a transition metal oxide having a micro-mesoporous structure whose average fine pore size is not less than 1nm and not more than 2nm and is instead directed to "lamellar mesoporous silica", which is different from the micro-mesoporous transition metal oxide structures of the claimed invention. All the previous arguments are re-alleged and incorporated herein by reference. However, since claims 1-2 and 5 have been deleted, the rejection is moot.

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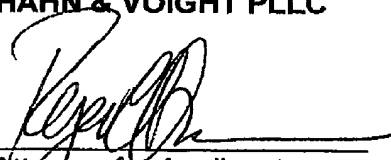
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### CONCLUSION

In light of the foregoing, the application is now in condition for allowance. It is therefore respectfully requested that the rejection(s) be withdrawn and the application passed to issue.

Respectfully submitted,

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